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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,894	11/16/2001	Roy E. Scheuerlein	023-0013	3451

22120 7590 05/08/2003

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EXAMINER

YOHA, CONNIE C

ART UNIT PAPER NUMBER

2818

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,894

Applicant(s)

SCHEUERLEIN, ROY E.

Examiner

Connie c. Yoha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment/election on 2/24/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 24-34, 40-42 and 45-68 is/are rejected.
- 7) ☐ Claim(s) 17-23, 35-39, 43-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office acknowledges receipt of the following items from the Applicant:

Information Disclosure Statement (IDS) filed on 1/15/02 and 1/13/03 were considered. However, none of the reference that are U.S. applications were considered because they are not published document.
2. Claims 1-68 are presented for examination.
3. Claim 40 has been amended.
4. After examining the case further, and due to the amended claim 40, examiner is now withdrawing the restriction requirement previously made (paper #5).
5. Claims 1-68 are pending.

Claim Rejections - 35 USC § 112

6. Claim 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is vague and not clear, therefore can not be understood by the examiner what is meant on line 13 of claim 1 "in at least the second mode of operation". How is a second mode of operation is different or is it different from "in at least the second mode of operation".

Claims 2-13 are rejected due to the rejections of the parent claim 1.

Also there is insufficient antecedent basis for the limitations in claim 2. Claim 2 recite the limitation "a first value" stated on line 5 which is already mentioned in claim 1, line 17.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-6, 13-16, 24-34, 40-42, and 45-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto Pat. No. 6160745 (cited IDS) in view of Shu et al, Pat. No. 5519712.

With regard to claim 1, 14, 24, 29, 40, 50, 63, Hashimoto discloses an integrated circuit having a fully-decoded array of memory cells, each memory cell associated with one of a plurality of x-lines and one of a plurality of y-lines (fig. 1, 6) (also with regard to claim 61-62, 66, 68), a method of operating the memory array comprising steps of : selecting at least a first y-line (col. 8, line 31-35); in a first mode of operation, selecting an x-line associated with the first selected y-line to impress a read bias across a corresponding memory cell coupled between the selected x-line and the first selected y-line (col. 8, line 6-15 and line 54-59); in a second mode of operation, selecting a first plurality of x-lines associated with the first selected y-line to impress a read bias across each of a corresponding first plurality of selected memory cells respectively coupled between the first plurality of selected x-lines and the first selected y-line (col. 9, line 3-8) (also with regard to claim 13, 16, 42, 45-46, 64-65); Hashimoto does not disclose in at least the second mode of operation: enabling a first read circuit having an input coupled

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to the first selected y-line and generating a first read signal on an output of the first read circuit having a first value if an aggregate read current of the first plurality of selected memory cells exceeds a second mode threshold level. However, Shu discloses the method in which in at least the second mode of operation (test mode): enabling a first read circuit (fig. 1, element 10, 12, 14) having an input coupled to the first selected y-line and generating a first read signal on an output of the first read circuit having a first value if an aggregate read current of the first plurality of selected memory cells exceeds a second mode threshold level (col. 2, line 34-col. 3, line 2). It would have been obvious for one having an ordinary skill in the art at the time the invention was made to modify Hashimoto's device to include the method of Shu's to generating a define value of the read circuit in a second mode (test mode) as an output signal, since Shu's method provide a test method which enables the testing of all of the columns of the memory array simultaneously, without the need for adding sense amplifiers and reducing the test time required for testing the memories (also with regard to claim 6, 25-28, 32, 34, 47-49, 51-60, 67).

With regard to claim 2, Hashimoto discloses in the first mode of operation enabling the first read circuit and generating the first read signal on the output of the first read circuit having a first value if a read current of the selected memory cell exceeds a first mode threshold level, and otherwise having a second value opposite the first value (col. 8, line 54-59) (also with regard to claim 4, 30).

With regard to claim 3, Hashimoto inherently discloses the second mode threshold level is different than the first mode threshold level (also with regard to claim 5, 15, 31, 33, 41).

Allowable Subject Matter

8. Claim 17-23, 35-39, 43, and 44 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 7-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

The prior art of record does not show the limitation of said control circuit includes a the steps of in the second mode of operation: selecting a second y-line; selecting a second plurality of x-lines associated with the second selected y-line to impress a read bias across each of a corresponding second plurality of selected memory cells x-lines and the second selected y-line; enabling a second read circuit having an input coupled to the second selected y-line; and generating a second read signal on an output of the second read circuit having a first value if an aggregate read current of the second plurality of selected memory cells exceeds a threshold level.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Nakagawa (6542431), Ooishi (6349065) and Shubat (6269036) disclose a memory device with testing mode.

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11. When responding to the office action, Applicants' are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

12. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (703) 306-5731. The examiner can normally be reached on Mon. - Fri. from 8:00 A.M. to 5:30 PM. The examiner's supervisor, David Nelms, can be reached on (703) 308-4910. The fax phone number for this Group is (703) 308-7722. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-0956.



C. Yoha

April 2003



Connie C. Yoha

Patent Examiner

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